

TI 320 1.1 en
Beckhoff Module for
d&b 10D, 30D, D20 and D80 amplifiers

Quick start guide

1. Introduction

The d&b Beckhoff Module allows the control and monitoring of a number of functions of the d&b four channel amplifiers (10D, 30D, D20 and D80) from within a Beckhoff automation system using the OCA protocol (AES70).

Requirements

- Ethernet-compatible d&b amplifiers (10D, 30D, D20 or D80) with Firmware V2.02.00 or higher.
- Beckhoff TwinCAT3 PLC v3.1.4020 or higher.
- Embedded PC CX5120 or a system with higher performance.
- Microsoft Windows Embedded Standard 7 or Microsoft Windows 7 Professional.
- Compact Flash card with a capacity of at least 8 GB.
- Beckhoff d&b Amplifier example project.

Plug-in capabilities

- **Device**
 - Power the amplifier on and off
 - Track the amplifier's Power and Error status
 - Read the amplifier name
- **Outputs**
 - Channel output gain and mute control
 - Supervise each channel's error status individually
- **Amplifier Presets**
 - Backup and load presets
 - Track the modified status of currently active preset
- **Monitoring**
 - Enable/disable Input monitoring for each individual analog and digital input
 - Enable/disable Load monitoring for each individual output
 - Input fallback and override settings

2. Getting Started

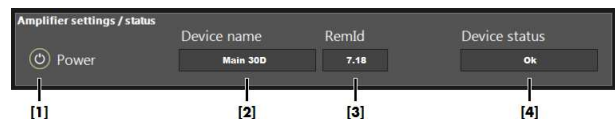
1. Start the TcOcaService using the Windows Services Console:
 - a) Open the Windows Start menu and select «Run...».
 - b) Type in «services.msc» on the command field and click Ok.
 - c) Find «TcOcaService» on the list and open its properties.
 - d) Start the service with the parameters «-log -clear».
2. Click on the TwinCAT icon on the system tray and under «Tools», select «Event Viewer». By starting the TcOcaService with the «-log» parameter, a Logfile named «OCA Log» will become available. The names of all d&b Amplifiers discovered in the network will be listed in this Logfile.
3. Click on the TwinCAT icon on the system tray and choose «TwinCAT XAE». This will start TwinCAT3 integrated as an extension of Visual Studio.

4. Open the provided TwinCAT project archive «TwinCAT DB Sample Project.tzzip». Several POU's and Visualisations will become available.
5. Verify that you have the necessary licenses. Valid TC1000 and TF1800 licenses are required.
6. The MAIN POU contains a string variable called «sDevName». Set the value of this string to match the name of one of the Amplifiers discovered by the TcOcaService. We recommend copying the name directly from the TwinCAT Event Viewer.
7. Click on «Activate Configuration». Confirm all dialogs with «OK».
8. Login to the PLC and start the program.
9. To display the Visualisation in Full-screen mode, start the PLC HMI task. For details on the PLC HMI please refer to the Beckhoff TF1800 manual.

3. Module details overview

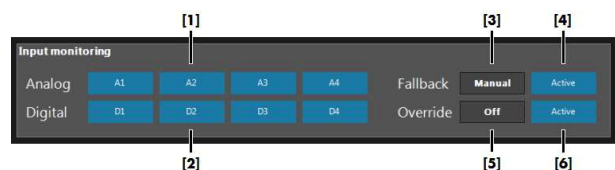
The TwinCAT framework enables system integrators to define their own custom user interface. The following screenshots of the d&b Amplifier demo project give an insight into the supported functionality.

Amplifier Settings/Status



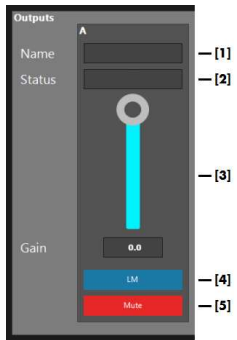
- [1] Power switch.
- [2] Amplifier's name.
- [3] Amplifier's RemId.
- [3] Amplifier status.

Input monitoring



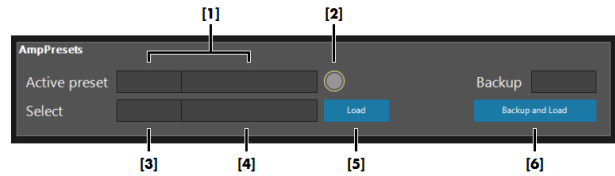
- [1] Enable/disable Input monitoring for each analog input.
- [2] Enable/disable Input monitoring for each digital input.
- [3] Fallback mode (Off, Manual, or Auto).
- [4] Enable/disable Fallback.
- [5] Override mode (Off, Manual, or Auto).
- [6] Enable/disable Override.

Output channels



- [1] Channel name.
- [2] Channel status.
- [3] Output level control.
- [4] Enable/disable Load monitoring.
- [5] Mute/unmute channel.

AmpPresets



- [1] Number and name of the currently active preset.
- [2] «Preset modified» LED will indicate if the amplifier's settings have been changed since the current preset was loaded.
- [3] Combo-box for selecting the next preset. This preset will only be preselected, but not loaded until «Load» is pressed.
- [4] Display for the preselected preset's name.
- [5] Load the preselected preset.
- [6] Backup the current configuration in the desired backup slot, and then load the preselected preset.