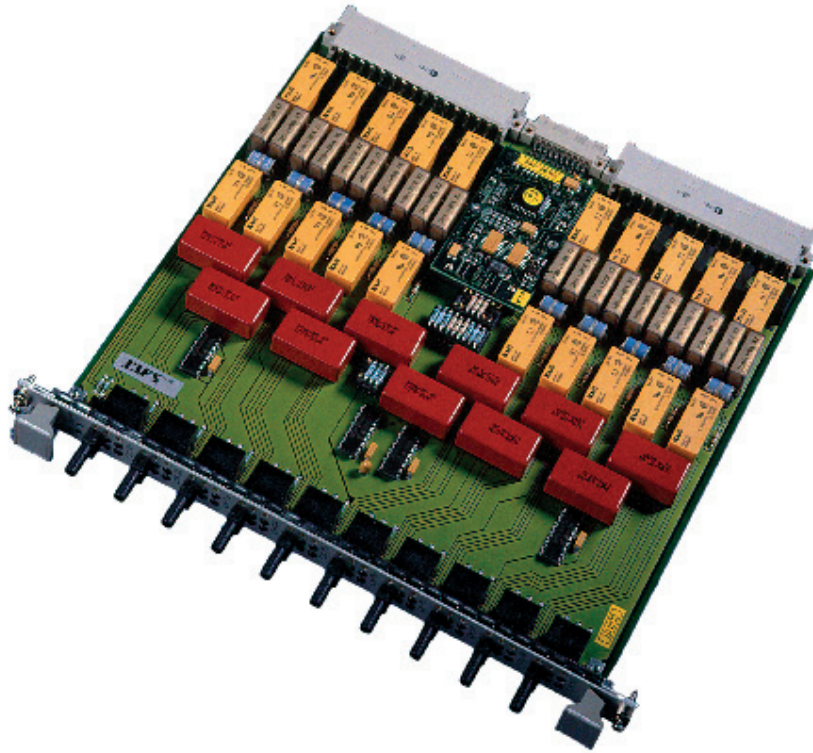




BOS

10 Channel Breakout & Switching Board



- 10 galvanically isolated channels for breakout & switching
- High-precision scan function
- Parallel signal measurement and generation for real-time applications
- Internal | external shunts and loads for signal environment simulations
- Configurable 2 | 4 wire measurement modes



BOS 10 Channel Breakout & Switching Board

Application Scope

The BOS Breakout & Switching board has been designed for maintenance, testing, and troubleshooting applications. It operates in two modes: Scan mode and Real-time mode.

The Scan mode, which is the board's main function, allows the routing and switching of sensitive analog signals to a high resolution DMM as well as the manual breakout for troubleshooting purposes. In Scan mode one signal can be handled at a time.

For real-time applications an additional data path is provided for measuring and generating signals on all channels simultaneously. The Real-time mode also supports internal or external loads for simulating specific environmental conditions.

Feature Highlights

The BOS board is provided with the following salient functions and features:

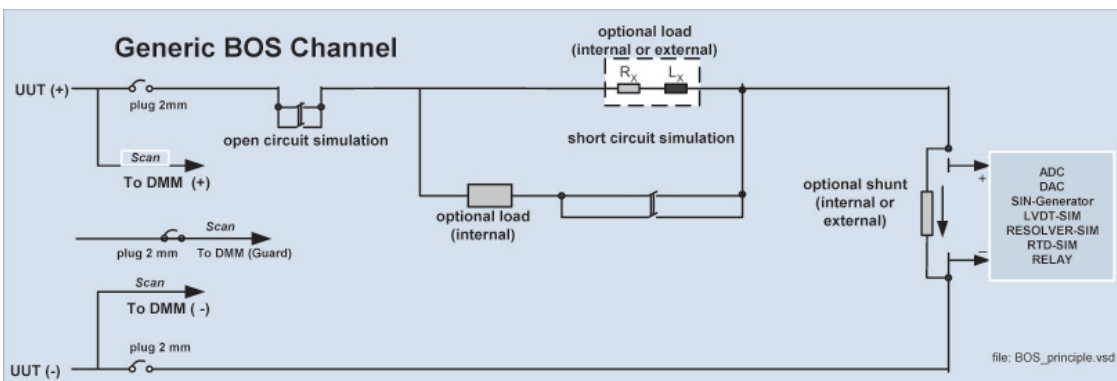
- > 10 independent, completely galvanically isolated channels for breakout & switching
- > High-precision scan function
- > Parallel signal measurement and generation for real-time applications
- > Internal / external shunts and loads for signal environment simulations
- > 2 / 4 wire measurement modes configured via unique board addressing in multi-board environments

Communication / Firmware

Communication with the BOS board is achieved via an RCM module using an RS485 interface operation at 38400 Baud. The general command protocol consists of data shown in the table below.

BOS Block Diagram

Byte 00	Byte 01	Byte 02	Byte 03-xx	Last Byte
Board-Adr	Cmd	Datalength	Databytes	Checksum



Technical Data

Electrical

- Working voltage: 5 Volt +/-5%
- Max. current open/short circuit: 4 Amp
- Max. current scanner: 500 mA
- Isolation Voltage between channels: 100 Volts
- Isolation Voltage channel to case: 100 Volts

Mechanical

- Length: 220 mm
- Height: 6 HE
- Weight: approx. 700g

Environmental

- Operating Temperature: 0° C - 70° C
- Storage Temperature: -40° C - +85° C
- Humidity: 0 - 90% non-condensing

Ordering Information

Type	Order Number
2-wire	700716-1
4-wire	700716-2

The addressed board answers with a string in one of two forms:

- > ACK Datalength DataBytes Checksum
- > NAK ErrorCode Checksum

The RCM firmware has (in addition to the general commands implemented for FIBO applications) two extra commands specially designed for use on the BOS boards. These commands allow relays to be switched either independently from each other (8-byte command), or in groups (5-byte command).