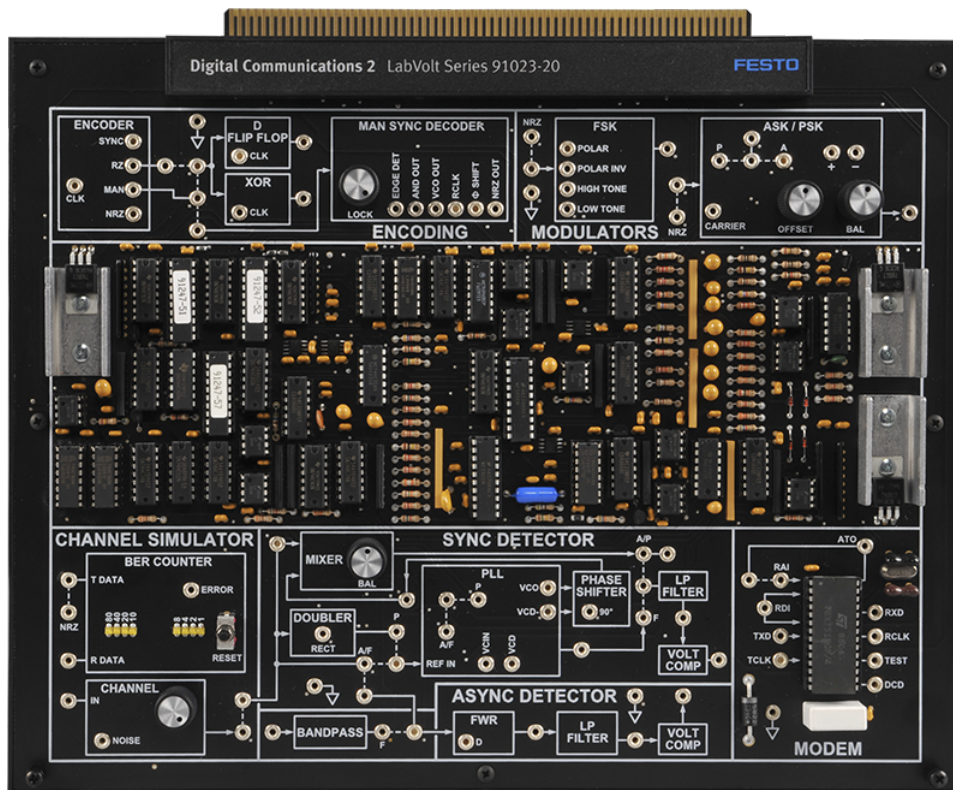


# Digital Communications 2 FACET Board 581135 (91023-20)

**FESTO**

LabVolt Series

Datasheet



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07/2024

## Table of Contents

General Description	3
Topic Coverage	3
Features & Benefits	3

## General Description

The Digital Communications 2 module enables students to configure, operate, and troubleshoot the following circuits:

- NRZ, RZ, and Manchester Encoding and Decoding
- Clock Synchronizer
- Frequency-Shift Keying (FSK) Generation
- FSK Asynchronous and Synchronous Detection
- Phase-Shift Keying (PSK) Generation
- PSK Asynchronous and Synchronous Detection
- Amplitude-Shift Keying (ASK) Generation
- ASK Asynchronous and Synchronous Detection
- Channel Effects
- FSK Modem

The circuits found on this board include:

- Line Encoding
- Modulators
- Channel Simulator
- Sync Detector
- Modem

## Topic Coverage

- Circuit Board Familiarization and Introduction to Digital Transmission
- Encoding and Decoding
- FSK Signal Generation, Asynchronous Detection, Synchronous Detection
- PSK Signal Generation and Synchronous Detection
- ASK Signal Generation and Asynchronous Detection
- Effects of Noise on ASK and PSK Signals
- Effects of Noise on Asynchronously and Synchronously Detected FSK Signals
- Operation of an FSK Modem and DPSK Modem
- Troubleshooting Basics and Troubleshooting Digital Communications 2 Circuits

## Features & Benefits

- The Channel Simulator circuit block and a bit error rate (BER) counter enable students to evaluate the effects of noise on ASK and PSK modulated carrier signals.
- The Modem circuit block contains an FSK/DPSK modem IC, which students use in a loop-back mode to observe the entire signal path.
- Communication signals are synchronized for easy display.

Reflecting the commitment of Festo Didactic to high quality standards in product, design, development, production, installation, and service, our manufacturing and distribution facility has received the ISO 9001 certification.

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