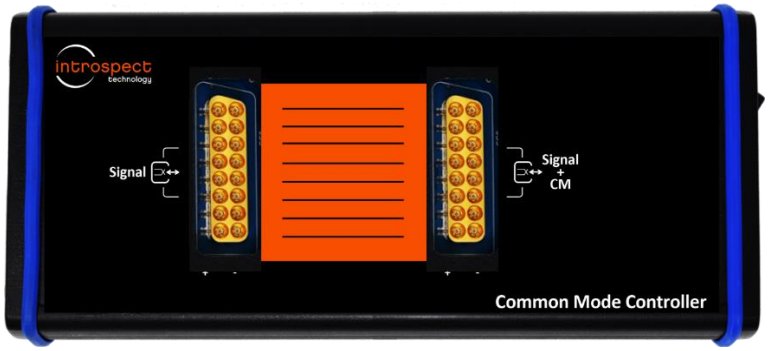
DATA SHEET

SV1C Common Mode Controller

C SERIES



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Introduction

OVERVIEW

The SV1C Common Mode Controller is an optional accessory that allows for injecting any common-mode level onto the outputs of the SV1C pattern generators. When connected to the SV1C Personalized SerDes Tester, the controller can be used to seamlessly generate different common-mode voltages within Introspect's software environment, Pinetree. No independent programming is necessary.

BENEFITS

- Provides more complete receiver characterization coverage
- Extends the common-mode range of the SV1C Personalized SerDes Tester
- Programmable transparently within Pinetree

Connection Diagram and Operating Guide

Figure 1 shows the different ports on the SV1C Common Mode Controller. On the left side, a SCSI connector that is matched to the corresponding one on the SV1C is available. This is used for communication between the SV1C Personalized SerDes Tester and the Common Mode Controller. Note that the communication protocol over this bus is proprietary and transparent. So, the supplied cable must be used and must not be modified. On the right side, power is supplied through a 12V DC Input jack and a corresponding switch. Finally, the high-speed signals are highlighted, with an indication of the connector driven by the SV1C Personalized SerDes Tester (labeled "Signal") and the one connected to the DUT (labeled "Signal + CM"). Finally, Figure 2 shows the complete connection diagram with the SV1C. As can be seen, Pinetree automatically programs the Common Mode Controller (as long as the connections are made in the manner shown in the figure).

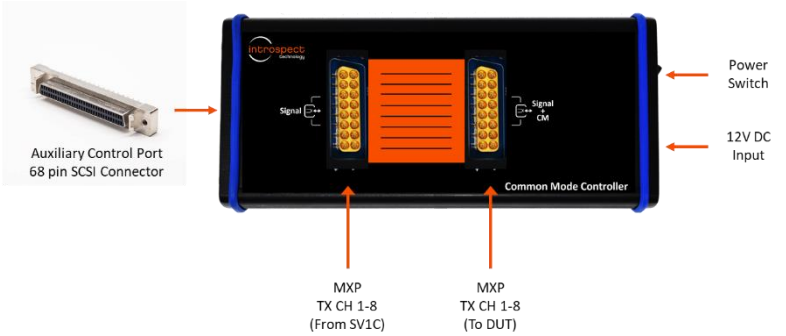

Figure 1: SV1C Common Mode Controller physical connections.

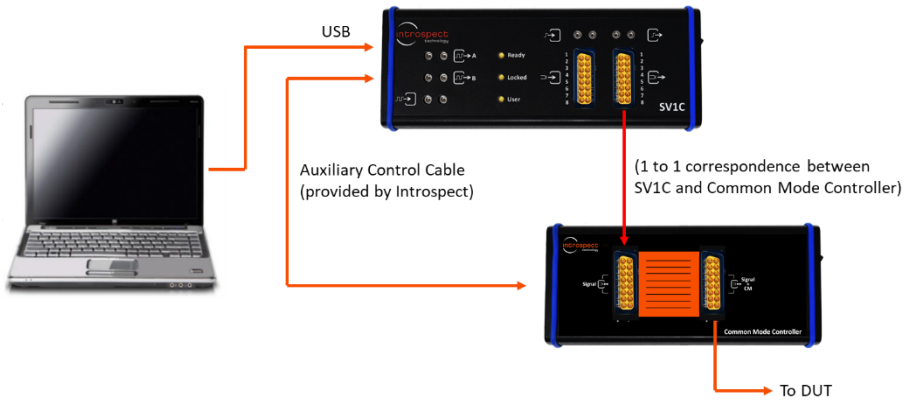

Figure 2: Connection and operating guide.

Specifications

TABLE 1: SV1C COMMON MODE CONTROLLER SPECIFICATIONS

PARAMETER	VALUE	UNITS	DESCRIPTION AND CONDITIONS
Ports			
Number of Differential Lanes	8		
AC Output Differential Impedance	100	ohms	
Voltage			
Minimum Differential Output Amplitude	20	mVpp	
Maximum Differential Output Amplitude	1000	mVpp	
Minimum Common Mode Voltage	250	mV	
Maximum Common Mode Voltage	2800	mV	
Timing			
Rise Time	60	ps	Typical, 350 mVpp signal, 20-80%
Lane to lane skew	30	ps	Static inter-lane skew

REVISION NUMBER	HISTORY	DATE
1.0	Document release	October 22, 2020
1.1	Updated template	December 8, 2020
1.2	Added connection diagrams	May 9, 2021
1.3	Updated Maximum Common Mode Voltage	June 6, 2023

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