

SMC51 *Chassiron* Cables Interface

C-Series Modules – Diode Laser Controller

- Connection of SMC-Series modules to laser mounts
- Laser : 9-pin female D-SUB connector
- TEC : 15-pin female D-SUB connector
- For use with
 - Sisyph SCB20x cables or
 - Third-party cables
- EMI noise immunity
- Ideal for rapid and reliable prototyping



Overview

The SMC-Series modules are the ideal instruments for controlling the current and the temperature of narrow linewidth laser diodes. With an ultra-low noise current source (SMC11) and sub-mK thermal control stability (SMC20 & SMC31), the SMC-Series is the right choice for the most demanding applications. Using the SMC-Series laser diode controller with the SMA- or SMB-Series modules, complete turn-key solutions are available for your laser frequency stabilizations or phase-locked lasers.

The SMC51 module allows operation of the SMC-Series modules with third-party laser mounts using DSUB-terminated cables. For instance, the SMC51 is particularly useful when the ultra-low noise *Estérel* controller replaces a noisy current source in an existing setup. Indeed, even if both SMC11 Current Source and SMC31 TEC Driver provide their own connectors, users may want to keep the laser connections unchanged while the noise specifications are upgraded. Note that special features provided by SMC11 and SMC31 specific connectors are not preserved by SMC51.

Important Notice

The specifications provided apply to the SMC51-R18A module. Information in this document is subject to change without notice. Copyright © SISYPH, 2019. All rights reserved.

Compatibility with third-party laser mounts

Manufacturer

iLX	most laser mounts are compatible
Newport	most laser mounts are compatible
Thorlabs	not compatible, use a specific cable

9-pin DSUB Laser Diode Connector

Pin	Description	Bus Pin
1	Interlock Source	DiO-42
2	Interlock Sense	DiO-40
3	Chassis	AiO-2 & DiO-1
4	Laser cathode	AiO-9
5	Laser cathode	AiO-9
6	Photodiode cathode	AiO-12
7	Photodiode anode	AiO-10
8	Laser anode	AiO-7
9	Laser anode	AiO-7
Shield	Chassis	AiO-2 & DiO-1

15-pin DSUB Thermoelectric Cooler Connector

Pin	Description	Bus Pin
1	TEC+	AiO-19
2	TEC+	DiO-19
3	TEC-	AiO-21
4	TEC-	AiO-21
5	Shield - Chassis	AiO-2 & DiO-1
6	Shield - Chassis	AiO-2 & DiO-1
7	Thermistor	AiO-23
8	Thermistor	AiO-25
9	not connected	
10	not connected	
11	not connected	
12	not connected	
13	not connected	
14	not connected	
15	not connected	

General Specifications

This module is designed to be operated in laboratory environment.

Operating

Temperature +15°C to +30°C

Physical Properties

Height (component side) ≤ 17 mm

Weight < 100 g

PCB 2-layer FR4, 100 × 100 mm

Warranty

One (1) year parts and labor on defects

Ordering Information

Front Panel Options

SMC51-FP-xx Shielded 3U-4HP front-panel (standard)

SMC51-NP-xx none

Stack-through Header Options

SMC51-xx-SC 50-pin header^a (standard)

SMC51-xx-NC none

Ordering Code

SMC51-FP-SC standard

^aTyco Part Number: 1-173145-4.

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